AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1.   (Previously Presented)   A packet transmission method in a mobile communications network system for routing a packet using an IP address between a user in a mobile communications network system and a user inside or outside the mobile communications network system, said packet transmission method comprising the steps of:

generating an IP address of the user in the mobile communications network system including a location address which identifies an access link termination node for which the user has carried out location registration and a user identifier which identifies the user;

storing the generated IP address into a packet transmitted and/or received by the user in the mobile communications network system; and

routing the packet in accordance with the location address and the user identifier in the IP address.

Claim 2.   (Original)   The packet transmission method as claimed in claim 1, wherein the location address has a hierarchical structure.

Claim 3.   (Original)   The packet transmission method as claimed in claim 2, wherein the hierarchical structure comprises at least a network identifier indicating a subdivided

network of the mobile communications network, and a node identifier provided in connection with a termination node of an access link in the network.

Claim 4.   (Original)   The packet transmission method as claimed in claim 3, further comprising the steps of:

routing the packet to the network in accordance with the network identifier;

routing the packet to the termination node in accordance with the node identifier; and

transmitting the packet from the termination node by selecting an access link of a related mobile communications network in accordance with the user identifier.

Claim 5.   (Original)   The packet transmission method as claimed in claim 3, further comprising the steps of:

routing the packet to the termination node, referring to the location address in its entirety; and

transmitting the packet from the termination node by selecting an access link of a related mobile communications network in accordance with the user identifier.

Claim 6.   (Original)   The packet transmission method as claimed in claim 1, wherein at least the location address constituting the IP address is transmitted to the user in the mobile communications network system or to the user inside or outside the mobile communications network system, when an access link is established between the user in the mobile communications network system and the mobile communications network system.

Claim 7.   (Original)   The packet transmission method as claimed in claim 6, further comprising the steps of:

storing an IP address in connection with a domain name in a database in a domain-name server;

having the domain-name server send the IP address back to the user in the mobile communications network system or to the user inside or outside mobile communications network system in response to an inquiry from the user about the IP address using the domain name; and

having the user that sends the inquiry carry out a packet communication using the IP address sent back.

Claim 8.   (Original)   The packet transmission method as claimed in claim 7, wherein when the inquiry is sent to the domain-name server, if the access link is not established then an access link is established.

Claim 9.   (Previously Amended)   The packet transmission method as claimed in claim 7, wherein the domain-name server generates the IP address by acquiring from the mobile communications network system a location address of the user in the mobile communications network system.

Claim 10.   (Previously Amended)   The packet transmission method as claimed in claim 1, wherein the packet including the IP address is routed in accordance with the IP address with or without encapsulating the packet.

Claim 11.   (Previously Presented)   A packet transmission system in a mobile communications network system for routing a packet using an IP address between a user in a mobile communications network system and a user inside or outside the mobile communications network system, said packet transmission system comprising:

means for generating an IP address of the user in the mobile communications network system including a location address which identifies an access link termination node for which the user has carried out location registration and a user identifier which identifies the user;

means for storing the generated IP address into a packet transmitted and/or received by the user in the mobile communications network system; and

means for routing the packet in accordance with the location address and the user identifier in the IP address.

Claims 12-19. (Cancelled).

Claim 20.   (Original)   The packet transmission system as claimed in claim 11, further comprising a domain-name server including a database for storing an access link termination node in a subdivided network in the mobile communications network in connection with an IP address and a domain name; wherein said access link termination node includes:

access link management means for establishing or releasing an access link;

means for storing the location address;

means for storing user location registration information in a memory in response to a location registration request from a user, and for providing the user with the location address of the user; and

means for transmitting the user location registration information to the domain-name

server in response to the location registration request from the user, and

wherein said domain-name server includes:

means for storing the IP address including the location address of the user;

means for receiving the user location registration information from the access link

termination node; and

means for updating the IP address using the user location registration information

received.

Claim 21.   (Cancelled).

Claim 22.   (Previously Presented)   A packet data transmission medium in a

mobile communications network system for routing a packet using an IP address between a user

in a mobile communications network system and a user inside or outside the mobile

communications network system, said packet data transmission medium storing an IP address of

the user in the mobile communications network system including a location address which

identifies an access link termination node for which the user has carried out location registration

and a user identifier which identifies the user into a packet transmitted and/or received by the

user.

Claims 23 and 24.   (Cancelled).

Claim 25.   (Previously Presented)   The packet data transmission medium as claimed in claim 22, wherein the packet data transmission medium consists of a packet data signal.

Claim 26.   (Previously Presented)   A   processing   method   in   a   mobile communications network system for routing a packet using an IP address between a user in a mobile communications network system and a user inside or outside the mobile communications network system, the processing method comprising the steps of:

generating an IP address of the user in the mobile communications network system including a location address which identifies an access link termination node for which the user has carried out location registration and a user identifier which identifies the user, when an access link is established between the user and the mobile communications network system;

notifying a domain-name server of the generated IP address; and

storing the notified IP address in connection with a domain name of the user in the mobile communications network system, in a database in the domain-name server.

Claim 27.   (Currently Amended) A processing method in a mobile communications network system for routing a packet using an IP address between a user in a mobile communications network system and a user inside or outside the mobile communications network system, the processing method comprising the steps of:

generating, at a domain-name server, an IP address of the user in the mobile communications network system including a location address of the user which identifies an access link termination node for which the user has carried out location registration and a user

identifier which identifies the user, by acquiring the location address from an apparatus

managing a location address of the user; and

storing the generated IP address in connection with a domain name of the user in the

mobile communications network system, in a database in the domain-name server.

Claim 28.   (Previously Presented)   A mobile communications network system

for routing a packet using an IP address between a user in a mobile communications network

system and a user inside or outside the mobile communications network system, the mobile

communications network system comprising:

a domain-name server; and

means for generating an IP address of the user in the mobile communications network

system including a location address which identifies an access link termination node for which

the user has carried out location registration and a user identifier which identifies the user, when

an access link is established between the user and the mobile communications network system;

and

means for notifying the domain-name server of the generated IP address,

wherein the domain-name server includes a database storing the notified IP address in

connection with a domain name of the user in the mobile communications network system.

Claim 29.   (Currently Amended) A mobile communications network system for

routing a packet using an IP address between a user in a mobile communications network system

and a user inside or outside the mobile communications network system, the mobile

communications network system comprising a domain-name server, the domain-name server comprising:

means for generating an IP address of the user in the mobile communications network system including a location address of the user ~~which identifies an access link termination node for which the user has carried out location registration~~ and a user identifier which identifies the user, by acquiring the location address from an apparatus managing a location of the user; and

a database storing the generated IP address in connection with a domain name of the user in the mobile communications network system.

Claim 30.   (Previously Presented)   A mobile communications network system for routing a packet using an IP address between a user in a mobile communications network system and a user inside or outside the mobile communications network system, the mobile communications network system comprising an access link termination node and a domain-name server, wherein

the access link termination node comprises:

access link management means for establishing or releasing an access link;

means for storing own location address;

means for storing location registration information in a memory in response to a location registration request from a user, and for providing the own location address to the user; and

means for transmitting the location registration information to the domain-name server in response to the location registration request from the user, and

the domain-name server comprises:

means for generating an IP address of the user including the location address of

the access link termination node and a user identifier which identifies the user;

a database storing the generated IP address in connection with a domain name of

the user;

means for receiving the location registration information from the access link

termination node; and

means for updating the IP address using the received location registration

information.

Claim 31.   (New) The processing method as claimed in claim 27, further comprising

the steps of:

referring to a memory managing access link establishment status of a user in the domain-

name server, when an inquiry regarding the user is sent to the domain-name server;

commanding an access link termination node in whose area the user is visiting, to

establish an access link, if an access link is not established for the user;

establishing, at the access link termination node, an access link between the access link

termination node and the user; and

providing, at the access link termination node, the user with the location address, when

the access link is established.

Claim 32.   (New) The processing method as claimed in claim 31, further comprising

the step of setting a flag indicating access link establishment in the memory managing access

link establishment status, when the access link is established and the IP address is newly

registered.

Claim 33.   (New) A terminal comprising

means for carrying out location registration for an access link termination node;

means for receiving a location address of the access link termination node from the

access link termination node;

means for setting an IP address including the location address, and a user identifier of a

user of the terminal, as a calling address of a packet; and

means for transmitting the packet in which the IP address has been set as the calling

address.

Claim 34.   (New) A terminal comprising:

means for transmitting a domain name of a user to a domain-name server;

means for receiving an IP address including a location address of the user, and a user

identifier of the user, from the domain-name server;

means for setting the IP address as a called address of a packet; and

means for transmitting the packet in which the IP address has been set as the called

address.